Cytology of gigantism.—The relation between the nuclei, and particularly the chromosomes, of exceptionally large individuals or varieties of a species has been described in several cases. TISCHLER[24] secured a giant form of *Phragmites communis* var. *Pseudodonax* which reached a height more than double that of the usual form. A comparison of the reduction divisions in the pollen mother cells of *P. communis* and the var. *Pseudodonax* brought him to the conclusion that, in this case, the gigantism arises through an increase in the size of the chromosomes, without any increase in their number. Other cases have been described in which the gigantism is due to an increase in the number of chromosomes, as in some forms of *Oenothera*, *Primula*, and *Solanum*.

The relation between chromosomes and dwarfing has received little attention from botanists, but the cytology of *Oenothera Lamarckiana* var. *nanella*, as described by GATES, and some observations by zoologists, indicate that the dwarfing is correlated, sometimes with a decrease in the number of chromosomes, and sometimes with a diminution in their size, without any change in their number.—C. J. CHAMBERLAIN.

Ecology of fossil plants.—In a report upon some fossil plant material found in the gorge of the Columbia River, in Oregon and Washington, CHANEY[25] notes that some 80 species are represented, 75 of which are angiosperms, of which 2 only are monocotyledons. A list of the genera with the number of species in each includes: *Ginkgo* 1, *Pinus* 1, *Smilax* 1, *Cyperacites* 2, *Populus* 3, *Salix* 3, *Hicoria* 2, *Juglans* 1, *Alnus* 1, *Carpinus* 1, *Corylus* 1, *Castanea* 1, *Quercus* 12, *Ulmus* 2, *Planera* 2, *Magnolia* 1, *Laurus* 2, *Platanus* 2, *Liquidambar* 3, *Crataegus* 1, *Sterculia* 1, *Rhus* 1, *Ilex* 1, *Acer* 3, and *Fraxinus* 1. From a study of this material the author concludes that the climate indicated by this Eagle Creek flora appears to have been somewhat warmer and drier than at present. The length of the epoch is to be placed at thousands rather than at scores of years. The dominant plants point to the existence of two habitats, one xerophytic and the other mesophytic. An area of upland dissected by a valley furnishes such habitats, and at the same time meets the geological requirements of the formation.—GEO. D. FULLER.

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[24] TISCHLER, G., Untersuchungen über den Riesenwuchs von *Phragmites communis* var. *Pseudodonax*. Ber. Deutsch. Bot. Gesells. **36**:549–558. *pl. 17*. 1918.

[25] CHANEY, R. W., The ecological significance of the Eagle Creek flora of the Columbia River gorge. Jour. Geol. **26**:577–592. *figs. 3*. 1918.